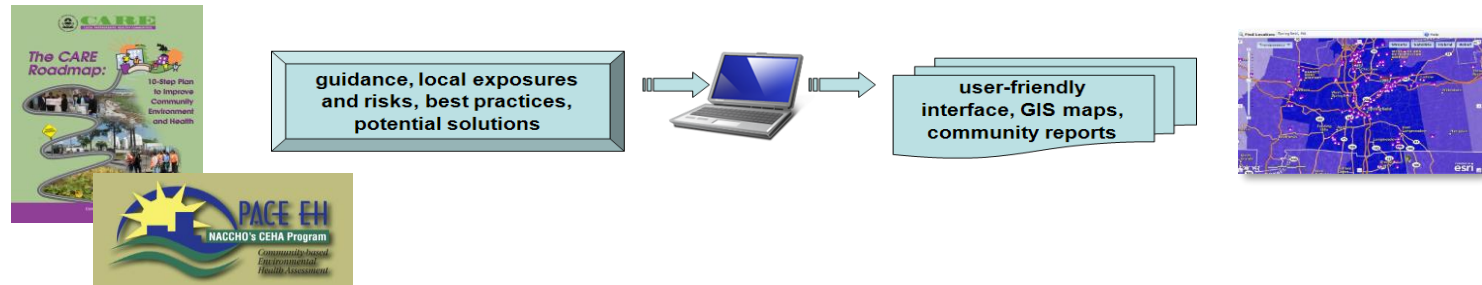# Community-Focused Exposure and Risk Screening Tool (C-FERST)

What is C-FERST?

C-FERST is an online information access and mapping tool

Communities can use C-FERST to

- Learn about environmental issues and exposures
- Compare conditions in their community with their county and state averages
- Explore exposure and risk reduction options
- Plan community-based assessments

Why C-FERST?

Communities and decision-makers face complex environmental issues...

- Numerous concerns, impacts and solutions
- Not enough experts to evaluate every situation
- Some have limited resources and access to information
- And may also have disproportionate impacts

Who Should Use C-FERST?

A Broad Range of Users:

| Government:
Local, State, & Federal | Professionals &
Academics | Public:
Leaders &
Organizations |

In Partnership! Learning and Working Together

Explore
The environmental issues

How does my community **compare** with County and State conditions?

View Maps of your community?

Plan Your Project
Using Community Guides with C-FERST

C-FERST Users
Information About C-FERST Connect with the User Forum

Where to **Start**?
Quick Start Guide shows the basics

What can we do about it?
Exposure and Risk Reduction options

More Resources
Other Tools, Citizen Science, Environmental Measurement Methods

⬇EPA United States Environmental Protection Agency

Environmental Topics   Laws & Regulations   About EPA

Search EPA.gov

Community-Focused Exposure and Risk Screening Tool (C-FERST)

Contact Us   Share

View Your Community
View Your Community's Environment Using C-FERST

1 2 3 4

Questions and Answers

- What is C-FERST?
- Who can or should use C-FERST?
- What can I use C-FERST for?

Community-Focused Exposure and Risk Screening Tool (C-FERST) provides access to resources that can be used to help communities learn more about their environmental issues and risks. The options below show how to use C-FERST to view a community's environment, compare community environmental conditions, explore and learn about environmental issues, plan projects with community guides, and participate in the C-FERST User Forum.

View
- View Your Community
  - Maps

Compare
- Compare Your Community
  - Community Data Table

Explore
- Explore and Learn
  - Environmental Issues
  - Exposure and Risk Reduction Options

Getting Started
- C-FERST Quick Start Guide
- Questions and Answers about C-FERST
- See the full disclaimer
- View C-FERST Limitations

Plan Your Project
- Community Guides
  - CARE Roadmap
  - PACE-EH Guidebook

C-FERST Users
- About C-FERST
- C-FERST User Forum

Additional Resources
- Additional Tools
- Citizen Science
- Environmental Measurement Methods

Related EPA Tools
- EnviroAtlas
- Environmental Justice Screening and Mapping Tool

Under Development:
- Community-LINE Source Model (C-LINE)
- Tribal-Focused Environmental Risk and Sustainability Tool

Contact Us to ask a question, provide feedback, or report a problem.

https://www.epa.gov/c-ferst

Example Applications of C-FERST

- **First Look**: **EJSCREEN**
- **Local Partnerships** (health department, nonprofit, and schools)
- **Taking a Closer Look** – **C-FERST** and **EnviroAtlas**
- **Ground Truthing** – Local knowledge, Citizen Science
- **Decision Making** – Decision support tools

Region 10 RESES Project

Examples of C-FERST Use (1)

- Houseless community
  - Check for EPA registered facilities, access to transit stops, and proximity to SNAP retailers
  - They found a hazardous waste facility on the site and were able to return to city officials to request re-assessment of the location

- Social work class
  - Conduct a Children's health and wellness study of their community
  - Identify potential sources of social and environmental stress such as exposure to Diesel PM, poverty; access to WIC retailers and dentists
  - Presented recommendations to local government and community representatives

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Maps: Houseless Site

There's a hazardous waste site (old dry cleaner site) at the proposed location.

By clicking on the hyperlinked address, we can access a detailed Facility Registry Services (FRS) report.

Community Data Table (CDT)

C-FERST Community Data Table

Please note that selecting your location will result in the Community Data Table opening in a new widow or tab. Please check your personal browser settings to ensure the pop-up option is enabled.
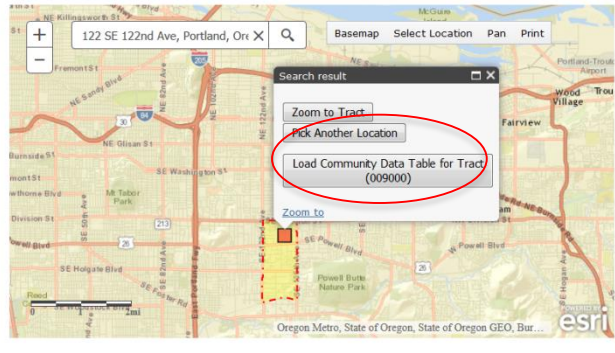
The CDT shows us that our community has higher levels of some air toxics than the county or state averages.

Indicators and Indices	Tract 009000	Multnomah County	Oregon
▼ Environmental Concentration Estimates			
Outdoor Air - Acetaldehyde ($\mu g/m^3$)	1.9	1.8	1.1
Outdoor Air - Acrolein+ ($\mu g/m^3$)	0.13	0.12	0.03
Outdoor Air - Arsenic ($\mu g/m^3$)	0.0001	0.0001	0.0000
Outdoor Air - Benzene ($\mu g/m^3$)	1.8	1.4	0.5
Outdoor Air - Butadiene ($\mu g/m^3$)	0.22	0.19	0.05
Outdoor Air - Chromium ($\mu g/m^3$)	0.0000	0.0001	0.0000
Outdoor Air - Diesel PM ($\mu g/m^3$)	1.5	1.6	0.3
Outdoor Air - Formaldehyde ($\mu g/m^3$)	2.10	1.93	0.96
Outdoor Air - Lead ($\mu g/m^3$)	0.001	0.001	0.000
Outdoor Air - Naphthalene ($\mu g/m^3$)	0.18	0.13	0.03
Outdoor Air - PAH ($\mu g/m^3$)	0.010	0.007	0.002
▶ Human Exposure Estimates			
▶ Health Risk Estimates			
▼ Demographic, Social and Economic Indicators			
% Minority	44.7	27.8	21.6
% Below Poverty Level	25.4	17.1	15.5
% Low Income (<2x poverty level)	59.0	35.6	35.4
% Less than Age 5 years	10.5	6.3	6.1
% Less than 18 Years	29.2	20.5	22.5
% > 64 years	9.1	10.7	14.1
% >= 25 years with less than a H.S. degree	24.0	10.5	10.8
% Linguistically Isolated Households	17.1	4.8	3.0
% Population American Indian and Alaskan Native	0.2	1.0	1.4
% Population American Indian and Alaskan Native below poverty	0.0	35.9	28.8

Click here to learn about Diesel PM.

Issue Profiles: Diesel PM

By following these links, we can gather helpful information.

Example of C-FERST Use (2)

- Graduate program for environmental educators
  - Develop environmental curricula and activities for a STEM program
  - Taught middle and high schoolers about GIS, environmental science, and community health
    - Students could create and upload GIS map layer and pictures to C-FERST, assess community, and vision solutions
  - To date, three academic institutions have incorporated C-FERST into their classroom curriculum

- A community nonprofit organization and County agency
  - Identify the locations of Brownfields and potential uses for the properties
  - Developed a community livability study to assess recreation, transit accessibility and food justice as part of a neighborhood redevelopment plan

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Where Can You Learn More?

https://www.epa.gov/c-ferst

Contact Us:

CFERSTmail@epa.gov

@EPAresearch

www.youtube.com/user/USEPAgov

www.facebook.com/EPAresearch